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AUTHOR Ohler, Denise L.; Levinson, Edward M.
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ABSTRACT

Since career development extends through the life span, career assessment may be helpful to individuals of all ages. This paper explains the theoretical bases for career maturity and provides definitions and correlates of the construct of career maturity. School psychologists, who typically work with students-at-risk academically and socially, should consider early assessment of career maturity in order to assist in the formulation of appropriate educational and vocational planning. They should also consider providing input into planned experiences that accommodate developmental differences. Awareness of interests, abilities, and aptitudes is an important component of career decision making, and should be assessed as part of the transdisciplinary vocational assessment. Addition of an interest inventory and career maturity measure would add approximately 1.5 hours to assessment time and provide valuable data for educational and vocational planning in a developmental context. These instruments could be administered by another transdisciplinary assessment team member. Curriculum-based assessment can measure individual progress in vocational domains and provide additional data to enhance the accuracy of career decision making. Reviews of the available instruments for vocational assessment suggest that continuing research and development of new tools is imperative. (RJM)

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ASSESSMENT OF CAREER MATURITY IN TRANSDISCIPLINARY VOCATIONAL ASSESSMENT

Denise L. Ohler

Edinboro University of Pennsylvania

Edward M. Levinson

Indiana University of Pennsylvania

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INTRODUCTION

Consider the senior high school student who visits the guidance counselor to discuss future educational and career plans. The counselor might assist the student to select courses for the next couple of years consistent with their academic or vocational track, or help the student use a computer guidance program to identify interests and explore careers. Even more likely, if the student is considering postsecondary education, the counselor will demonstrate how to use the college directories and complete college application forms. Maybe the counselor will administer an interest inventory. The student might leave the office no less confused and uncertain about where to turn for help in identifying a direction based on his/her individual strengths and weaknesses, current occupational information, or decision-making strategies. How likely is it that anyone will ask, "How ready is this student (or class) to make the kinds of educational and vocational decisions that schools and the world of work expect them to make?"

Research has indicated that school psychologists are interested but relatively uninvolved in vocational assessment activities. Using their knowledge of assessment methodology, measurement theory and psychometrics, school psychologists can contribute directly and indirectly to facilitate the transdisciplinary vocational assessment and planning process (Levinson,1993).

The following have been proposed as uses of career maturity measures: 1) criterion measures in research and counseling and career education program evaluation; 2) survey data providing information on groups of students for curriculum and course planning; and 3) counseling as diagnostic data and predictors of later career success (Super & Thompson, 1979). Research cited in this paper has

indicated that students with disabilities tend to lag behind their peers in psychological, social, and intellectual readiness for the career development process. While some school psychologists still have reservations about their role in facilitating the vocational development of students with disabilities, they are uniquely qualified to generalize their knowledge of human development and psychometrics to the vocational aspects of school psychology (Anderson & Hohenshil, 1990). School psychologists can provide vocational services directly and indirectly by: considering the vocational implications of assessment data; gathering vocationally specific assessment information; using their knowledge of psychometrics to assist other educators; using their consultation skills and knowledge of disabilities, learning/behavior theory and adolescent psychology to assist other professionals; and using their knowledge of research and statistics to assess the overall effectiveness of vocational assessment programs (Levinson, 1993).

This paper will explain the theoretical bases for career maturity, and provide definitions and correlates of the construct of career maturity. Upon examining the relevance of assessing career maturity of students, instruments that measure the construct will be compared. Implications of research studies and recommendations for practice will be presented.

THEORETICAL BASES AND DEFINITIONS

The most widely known proponent of a process (developmental) theory of career development is Donald E. Super whose research over a period of over 40 years has served to clarify the theoretical constructs and to provide practical applications. Just as general development can be broken down into major life stages

placed sequentially on a continuum, each stage having characteristics which are peculiar to it and which justify singling it out, so the continuum of vocational development can be broken down into vocational life stage, each defined by its particular characteristics (Super, 1955). Super and other developmental theorists have postulated that career development is a birth to death process consisting of stages with specific developmental objectives. The stages are sequential with associated ages, however, the rate of progress along the continuum can vary for individuals and groups.

Super's career development theory has been compared to Erikson's psychosocial development theory. Erikson viewed the ability to formulate viable and rewarding career plans as central to the satisfactory resolution of the adolescent identity crisis (Munley, 1975). A career seems to serve as a vehicle for actualizing the self concept and for integrating both in a coherent form (Seligman, 1980).

Career development can be generally conceptualized as the extent to which individuals are capable of making career choices independently. Super (1955) defines vocational maturity as the degree of development, the place reached on the continuum of vocational development from exploration to decline. Vocational maturity can be thought of as vocational age, similar to mental age but with more distinctions in late adolescence and early adulthood. It cannot be overstressed that these ages are not precise endings and beginnings of stages; they are ages at which these transitions are often noted, but for some they come earlier and for others later; and many recycle through several stages as they make transitions, change jobs or occupations, become disabled, leave, or reenter the labor market (Super, 1992). Bingham (1978) defined career attitudes as an individual's affective rather than intellectual reactions toward

career choice incorporating feelings about involvement in the career choice process, orientation toward work, independence in decision making, preference for career choice factors and conceptions of the career choice process.

Career maturity was defined by Crites (1978) as having definite career choices, making consistent choices over time, and making choices that are realistic. Holland, Daiger and Power (1980) defined vocational identity as an awareness of, and ability to specify one's own interests, personality characteristics, strengths, and goals as these relate to career choices, and developed a scale to assess vocational identity, which appears on the "My Vocational Situation" (Holland, Daiger, & Power, 1980) questionnaire. Vocational identity was positively correlated with career maturity ($r = .69$) suggesting similarity of the two constructs. High vocational identity scores were found to correlate also with Harren's rational decision making style, and with tolerance of ambiguity and less social anxiety.

Factor analysis of the Career Development Inventory, one of the primary instruments used to measure career maturity described subsequently, clearly yielded a two-factor structure, with attitudinal scales in one cluster and cognitive scales in the other. This provides partial support for Levinson's (1993) conclusions that individuals who demonstrate a high level of career maturity are individuals who have adequate understanding of themselves (attitudinal), adequate understanding of the world of work (cognitive), and are capable of using information to make career choices using a rational decision-making style.

CORRELATES OF CAREER MATURITY

There has been a significant amount of research devoted to understanding the

correlates of career maturity. Intelligence scores have been found to correlate significantly and positively with a number of variables relevant to career development such as occupational success (Super, 1957) and career maturity (Tseng & Rhodes, 1973; Palmo & Lutz, 1983; Aloia, 1977; Faas & D'Alonzo, 1990). Children with inventoried IQs below 90 or with poor reading ability were more likely to make fantasy choices than were their brighter peers (Brown, 1970). Career maturity has also been associated with scholastic abilities in other studies (Westbrook, Cutts, Madison, & Arcia, 1980; Westbrook & Parry-Hill, 1973).

Brown (1970) also found that gender and intellectual ability relate to career development in that girls show a more rapid rate of career maturation than do boys (Seligman, 1980). In a more recent study, King (1989) also found that adolescent females had significantly higher career maturity scores than males, and that age was positively correlated to career maturity.

Career maturity during the early adolescent years has been found to be related to several variables (Seligman, 1980). Smith's (1972) study of eighth graders suggested that high levels of career maturity were associated with being female, having high intellectual ability and good grades, and having high educational aspirations. Career maturity in ninth graders has been shown to be correlated with intellectual and cultural stimulation (Osipow, 1968). Gribbons and Lohnes (1968) studied the career maturity of eighth graders and found that eight major variables seemed to constitute readiness for career planning: factors in curriculum choice, factors in occupational choice, verbalized strengths and weaknesses, accuracy of self-appraisal, evidence for self-ratings, interests, values, and independence of choice.

Other factors related to higher levels of career maturity include early work

experiences (Seligman, 1980), awareness of their interests and abilities (Super, 1964), and suburban living (Asbury, 1968).

Research has shown that mature career attitudes are related to emotional development in adolescence (Karayanni, 1981) and in college (Munley, 1975); internal locus of control (Gable, Thompson, & Glanstein, 1976; Bernardelli, DeStefano, & Dumont, 1983); self esteem or confidence (Crook, Healy, & O'Shea, 1984; Kahn & Alvi, 1983); and to various career development competencies (Gasper & Omvig, 1976; Westbrook & Parry-Hill, 1973).

A study by Healy, O'Shea, and Crook (1985) explored whether career attitudes are a function of age and whether persons with more mature career attitudes earn higher GPAs, have higher level jobs, and experience more stable employment in college. Results suggested that career attitudes correlate positively with age, GPA, occupational level of one's college job, and months employed during college.

How do special populations fare in terms of the development of career maturity? Limited research has been conducted on the attitudinal and cognitive aspects among disabled and disadvantaged students. The disabled individual who is attitudinally mature may be one who endorses a rational, non-dependent, decision-making style; one who is cognitively mature may rely on the decision-making ability of others (Phillips, Strohmer, Berthaume, & O'Leary, 1983). The strongest predictors of career maturity in nondisabled and nondisadvantaged students were scholastic achievement and lack of a dependent decision-making style.

Bingham (1978, 1980) measured the career attitudes of boys with and without learning disabilities. The earlier study indicated that boys with learning disabilities in a public school setting scored significantly lower on career attitudes than normal boys at

both preadolescent and adolescent levels. The second study with boys in a private school indicated significantly lower scores for LD boys in the affective section but no delay in cognitive variables. Similarly, LD college students are significantly less mature in their career decision-making attitudes than their non-LD peers, and this difference in attitudes is primarily attributable to those LD students who have decided upon a career field but have yet to identify an occupational specialty within that field (Biller, 1988).

Kendall (1981) also studied the career maturity of LD students. Results indicated that career attitudes of LD students in the learning resource room were lower than demonstrated in the regular classroom. The highest level of career attitudes was found in vocational training classes.

RELEVANCE OF ASSESSING CAREER MATURITY

Why is it important to assess career maturity? Super (1957) has stated that knowing the degree of vocational maturity attained by students and the experiences likely to contribute to further development, it would then be possible to improve both counseling and education. Particularly for students already at risk academically, determining that they have immature career attitudes can facilitate intervention to increase the power of remedial programs by incorporating activities that build career attitudes.

The career developmental and psychosocial stages critical to career decision-making span the secondary school years. The goals of secondary education require school psychologists to supply additional information related to vocational planning. Students with disabilities may require considerable intervention before vocational

decisions can be made (Anderson & Hohenshil, 1990; Levinson, 1993). The school psychologist's expertise in assessment and adolescent psychology may be most critical to his or her involvement in vocational programming on an indirect or direct basis (Levinson, 1993).

As part of a vocational assessment battery, assessment of career maturity can provide valuable information to the multidisciplinary team, the student, parents, and administrators. Anderson and Hohenshil (1990) have stated that if students are found to be functioning within developmental limits, traditional approaches are presumed to be adequate. If delays are noted, then appropriate intervention can be employed. While it may seem a luxury to include an assessment of career maturity as a tool of the school psychologist, it has been suggested as a critical piece of information in working with students with disabilities.

ASSESSMENT OF CAREER MATURITY

Inventories of career maturity can be useful in assessing career development, in determining a client's readiness for career planning, in identifying developmental areas in need of counseling or remediation, and in planning and measuring the effect of programs or experiences designed to enhance career development (Seligman, 1980). Instruments designed to measure career maturity will be described in terms of purpose, target population, technical adequacy, and critical reviews. The reader is referred to Appendix A for a summary chart of these instruments.

Career Development Inventory (CDI): The CDI, based on over 40 years of research by Super and others, assesses readiness of adolescents and young adults to make career decisions. It is available in two forms, high school and college levels.

Assessment is made in five areas: career planning, career exploration, decision-making, world of work information, and knowledge of preferred occupational group. The first four scales constitute one factorial scale, Career Development Attitudes (CDA). The fifth scale constitutes another factorial scale, Career Development Knowledge (CDK). A composite score, Career Orientation Total (COT), roughly approximates a total career maturity score.

Reliability coefficients for the two attitude scales range from .75 to .90 for the high school level. Those for the three cognitive scales range from .53 to .87. Alphas are comparable at the college level. At all levels, the CDA and CDK scales have reliabilities higher than .75, and the COT alphas are .85 and higher (Super,1992). Content and face validity are based on two studies with intercorrelations between five dimensions to justify the construct of career maturity. Evidence of construct validity is based on sex, grade and curriculum program differences. However, there is no information about how the range of levels and types of occupation was determined for the hypothetical vignettes in the decision-making scale. The extent to which personal performance or knowledge can be estimated from what hypothetical others should do would benefit from elaboration (Ninth Mental Measurements Yearbook, 1985). Correlations between the CDI and other career development measures revealed that the CDI does measure variables resembling those measured by other instruments. Norms and scale scores are strong points. Reading level is 11th and 12th grade. It leaves little to be desired in terms of ease of use or appearance (Kapes & Mastie, 1988).

The factor structure and scale differences among subgroups suggest that the CDI has utility for assessing career maturity. However, criterion related validity

requires future research (Ninth Mental Measurements Yearbook, 1985). It should yield data decidedly useful to high school and college students who desire diagnostic or survey information relating to future educational plans (Kapes & Mastie, 1988).

Career Maturity Inventory (CMI): The CMI consists of an attitude scale and a knowledge test designed for a target population of grades 6-12. The Attitude Scale (counseling form) provides five subscores, namely, Decisiveness in, Involvement in, Independence in, Orientation to, and Compromise in Career Decision Making. Internal consistency ranged from .5 to .72. Their intercorrelations ranged from .18 to .55, acceptably low for scales purportedly measuring different constructs. Norms are by grade level and provide percentile ranks and standard scores. Response bias could be a problem for this scale since most of the items are negatively worded. Cautious interpretation of the CMI attitude scores is recommended (Kapes & Mastie, 1988).

Five subtests comprise the Competence Test, namely Self Appraisal, Occupational Information, Goal Setting, Planning, and Problem Solving. Norms are by grade level and provide percentile ranks and standard scores. Each subtest has its own norms. Internal consistency reliability estimates range from .58 to .90 (Kapes & Mastie,1988). Correlations of .20-.30 were found with other measures of career maturity. A median validity coefficient of .83 within subtests suggest that items measure the same variable. For essentially an achievement test, this is low. Subtests have been described as providing "limited samples of the domain of occupational information and of dubious utility" and "trait matching at is worst" (Ninth Mental Measurements Yearbook, 1985).

Reviews have suggested that there is no factor analysis in support of the five

conceptual clusters in the Attitude Scale. The norm tables are not advocated without more adequate guide to interpretation. For example, if the lowest quartile is considered delayed in career development, what if the score is greater than the lowest quartile, but the same as a year ago? Overall, the Attitude Scale is a fair representation of career development, but the Competence test is still in the early stages of development (Ninth Mental Measurements Yearbook, 1985) There may well be a pool of common knowledge about career and work that is not adequately distinguished by the theory. While flawed, the CMI has well documented psychometric characteristics and its scores can be related to over 200 published references. If the CMI seems to cover what the researcher needs to be measured, it should be used (Kapes & Mastie, 1988).

Adult Career Concerns Inventory (ACCI): The ACCI is the unidimensional state-of-the-art career measure of career adaptability or planfulness in older adolescents and adults that assesses degree of concern expressed for the major developmental tasks of an adult occupational career. Internal consistency is rated in the .90s. Construct, criterion, and predictive validity have been established, and the reliabilities of even the substage scores are in the .80s. Age and current stage concerns had higher correlations, but real concerns for other life stages were frequent, as in recycling (Super, 1992). The ACCI appears to have some promise as a new instrument to measure career maturity of adults.

Assessment of Career Decision Making (ACDM): The ACDM was designed to evaluate high school and college students' decision-making style and progress on three decision-making tasks. It provides percentile ranks and standard scores for nine scales. After description of a student's standing on a particular scale, the manual

details the particular pattern of responses that resulted in that score. Within the decision-making styles area, school/college adjustment area, and occupation/major area, the scores for pairs of scales are compared. Reliability coefficients ranged from .49 to .92. Validity information was inadequate. Reviews suggest that the ACDM is useful for needs assessment (Kapes & Mastie, 1988).

Career Problem Checklist (CPC): This instrument is designed for students ages 14-17 to identify problems at school or home, in making decisions, in obtaining occupational information, and in looking for work. As such, it is a screening alternative to the pre-interview questionnaire. Analysis is directed to individual items and clustering of themes. There are no norms. Empirical data is needed (Ninth Mental Measurements Yearbook, 1985).

Biographical Inventory Form U (BFU): This inventory, targeted for grades 7-12, was designed to identify talents, but includes a scale for career maturity. However, there is concern about the inappropriateness of the criterion for judging career maturity. Percentile ranks are provided. Validity and reliability evidence are limited for this experimental instrument (Ninth Mental Measurement Yearbook, 1985).

My Vocational Situation (MVS): The MVS was developed to assess vocational identity, occupational information, and personal or environmental barriers to career maturity grade 9 to adult. Although developed through factor analysis, there is no theoretical framework explained. Validity evidence is not strong, and while reliabilities are in the upper .80s for the VI scale, they are low for the subscales ranging from .23 to .79, suggesting that only the total score should be interpreted. There are no percentile norms, and it is not clear to which populations intercorrelations can be generalized (Ninth Mental Measurements Yearbook, 1985). The MVS may be useful as a

screening instrument to assess need for vocational assistance, but it is not ready for general use.

Career Decision Scale (CDS): Designed for grade 9- college, the purpose of the instrument is to clarify the antecedents of indecision and provide a total indecision score. Validity evidence was accrued by a number of studies showing greater decidedness after exposure to career planning interventions. Research on construct and concurrent validity is quite promising (Kapes & Mastie, 1988). Reliability coefficients were .70-.90. Percentile norms are provided for high school, college and adults. Good purposes for the CDS are as a springboard or outcome measure (Ninth Mental Measurements Yearbook, 1985). The CDS is a brief, easy to administer, valid and reliable measure of career indecision (Kapes & Mastie, 1988).

Career Skills Assessment Program (CSAP): The CSAP measures six content domains based on career education objectives in high school and college: self evaluation, career awareness, career decision-making, employment seeking skills, work effectiveness skills, and personal economic skills. While there is evidence of content validity, the CSAP lacks evidence of criterion validity. Knowledge and effective action are not identical. Reliability is adequate, and each measure is highly correlated with verbal ability (Ninth Mental Measurements Yearbook, 1985).

One reviewer described the CSAP as a reading test, however, the reviewer missed the distinctions of awareness of interests and abilities, in contrast with career awareness and maturity. It appeared that he did not understand the intent of the instrument or elements of the construct of career maturity.

Career Plans Check Up (CPCU): This instrument is a career maturity assessment instrument operated on microcomputers. The correlation between the

CPC and a criterion measure (My Vocational Situation) was .81, implying that both primarily measure the same construct (Baker, et al., 1988).

Salience Inventory (SI): The SI was designed to assess the relative importance of five major life roles (studying, working, community service, home and family, and leisure) in order to understand a person's readiness to make career decisions. The importance of each life role is assessed from three different perspectives; participation, commitment and value expectations (Kapes & Mastie, 1988).

Internal consistency coefficients (.80s or .90s) are reported. Test-retest correlations are less than .70. Cross-cultural data suggest that the salience of a given role varies with life experiences; stability is expected to be lower. Validity has been ensured by methods of development, expected differences within the sample, and intercorrelations of the scales.

IMPLICATIONS AND RECOMMENDATIONS FOR PRACTICE

There is no simple process or instrument to comprehensively assist educational professionals to facilitate educational and career development in their students. However, the addition of assessment of career maturity adds a missing piece of information to improve vocational and educational intervention . Super and others (1992) has proposed the Career-Development Assessment and Counseling Model (C-DAC) to include developmental career data applied to the results of aptitude batteries, interest inventories, and discussions of educational, occupational and familial objectives, leading to the formulation of action plans. The model moves from theory to conceptual design to instruments which include the Strong Interest Inventory, Values Scale, Career Development Inventory, Adult Career Concerns Inventory, and the

Salience Inventory. A measure of career decision making (Career Decision Scale) is included when time permits. Super suggested that these instruments be administered specifically in one of two preferred sequences with vague rationale.

Super's model represented an attempt to link assessment and intervention. Anderson and Hohenshil (1990) also seek to forge a liaison between the skills of school psychologists and practical relevance to other educators. School psychologists typically collect a large amount of vocationally relevant information during the course of a traditional psychoeducational evaluation, and the major barrier to more effective utilization of these results for vocational and educational planning has been the inability of various disciplines to communicate (Anderson & Hohenshil, 1990). A proposed assessment battery outline in Appendix B shares a number of components with a traditional battery. Anderson and Hohenshil (1990) suggest that it is not necessary to administer a specific instrument for each component but to select among the listed alternatives that are arranged to represent increasing approximations to the world of work.

Another method of linking vocational assessment and intervention can be achieved through the application of curriculum based assessment. School psychologists might integrate CBA methods by establishing normative data for vocational competencies, measuring individual progress in the attainment of vocational competencies, and calculating learning rate to predict success in vocational domains (Swisher & Clark, 1991). The use of ongoing feedback on weekly progress could enhance rate of skill acquisition and, more importantly, provide validation of interests and abilities critical for accuracy in vocational decision making.

The choice of a particular assessment instrument will depend on the purpose of

assessment, the evaluator's preference, and the characteristics of the student. Upon careful review of the career maturity assessment instruments for high school students, it would seem that the Career Development Inventory, Career Decision Scale, and the Career Maturity Inventory (Attitude Scale) would have wide applicability based on technical adequacy, ease of use, and intended purpose. My Vocational Situation, the Career Problem Checklist, and the Assessment of Career Decision Making have usefulness as screening instruments. The Career Plans Check Up appears to hold promise as a computerized instrument. The rest of the instruments reviewed here are in research and experimental stages.

The majority of the instruments demonstrated four limitations: 1) additional research on criterion validity is needed which identifies a common body of occupational knowledge; 2) research based on representative not convenience samples is needed; 3) testing of the assumption that understanding of others' career situations implies effective action on the part of the assessed student is recommended; and 4) consideration of the extent to which findings regarding career maturity interface with the transition from school to work.

SUMMARY AND CONCLUSIONS

Since career development extends through the life span, career assessment may be helpful to individuals of all ages. School psychologists, who typically work with students at risk academically and socially, should consider early assessment of career maturity in order to assist in the formulation of appropriate educational and vocational planning, and to provide input into planned experiences that accommodate developmental differences. Levinson (1993) has suggested that vocational

assessment occur as part of triennial evaluation. Awareness of interests, abilities, and aptitudes is an important component of career decision making, and should be assessed as part of the transdisciplinary vocational assessment. Addition of an interest inventory and career maturity measure would add approximately 1 1/2 hours to assessment time, and provide valuable data for educational and vocational planning in a developmental context. These instruments could be administered by another transdisciplinary assessment team member. Curriculum based assessment is a method of measuring individual progress in vocational domains, and providing additional data to enhance the accuracy of career decision making.

Comprehensive review of the available instruments suggests that continuing research and development is imperative. Despite the imperfections, attempting to understand this missing piece can assist school psychologists to accomplish the common goal of facilitating career maturation in students.

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DEFINITIONS OF CAREER MATURITY

vocational maturity: the degree of development, the place reached on the continuum of vocational development from exploration to decline (Super, 1955)

career attitudes: an individual's affective rather than intellectual reaction toward career choice incorporating feelings about involvement in the career choice process, orientation to work, independence in decision making, preference for career choice factors, and conceptions of the career choice process (Bingham, 1978)

career maturity: the state of having definite career choices, making consistent choices over time, and making chocies that are realistic (Crites, 1978)

vocational identity: an awareness of, and ability to specify one's own interests, personality characteristics, strengths, and goals as these relate to career choices (Daiger & Power, 1980)

CAREER DEVELOPMENT INVENTORY SUBTESTS AND SCALES

SUBTESTS

CAREER PLANNING (prior planning and amount of planning)

CAREER EXPLORATION (career information sources and usefulness)

DECISION-MAKING (knowledge and insight into career decisions)

WORLD OF WORK INFORMATION (knowledge of career development tasks)

KNOWLEDGE OF PREFERRED OCCUPATIONAL GROUP

SCALES

CAREER DEVELOPMENT ATTITUDES (CP AND CE)

CAREER DEVELOPMENT KNOWLEDGE AND SKILLS (DM AND WW)

CAREER ORIENTATION TOTAL (CP, CE, DM, WW)

CAREER MATURITY INVENTORY SUBSCALES AND SUBTESTS

ATTITUDE SCALE SUBSCALES

DECISIVENESS IN

INVOLVEMENT IN

INDEPENDENCE IN

ORIENTATION TO

COMPROMISE IN

COMPETENCE SCALE SUBTESTS

SELF APPRAISAL

OCCUPATIONAL INFORMATION

GOAL SETTING

PLANNING

PROBLEM SOLVING

CONTINUUM OF VOCATIONAL ASSESSMENT TECHNIQUES

Component	*Techniques*
Mental ability/ vocational aptitudes	Intelligence tests Aptitude tests (single & multiple) Work samples Work simulations
Achievement	Achievement tests Curriculum-based assessment
Small/large motor coordination	Observations Performance tests Work samples Work simulations Curriculum based assessment
Personality/social maturity	Observations Personality tests Rating scales
Interests	Observations and interviews Interest inventories
Adaptive behavior	Observations and interviews Rating scales
Career maturity	Observations and interviews Career maturity inventories

Source: Anderson, W., Hohenshil, T., Heer, K., & Levinson, E.M. (1990). In A. Thomas & J. Grimes (Eds.), Best practices in school psychology (pp. 787-797). Washington, DC: National Association of School Psychologists.

Appendix A

Summary Chart of Career Maturity Instruments

Name	*Purpose*	*Population*	*Psychometrics*	*Critique*
Adult Career Concerns Inventory (ACCI)	Unidimensional measure of career adaptability or planfulness	Adults +18	*R = .90s Construct, criterion and predictive validity = .80s	Promise for measuring career maturity of adults.
Assessment of Career Decision Making (ACDM)	Decision-making style and progress on 3 tasks	High School +College	R = .49-.92 Validity info inadequate	Useful for needs assessment.
Biographical Form U (BFU)	Identify talents (one scale for career maturity)	Gr 7 - 12	Limited validity and reliability evidence; no criterion validity.	Experimental.
Career Decision Scale (CDS)	Career indecision	Gr 9 - College	Construct and concurrent validity; test-retest = .70-.90	Springboard or outcome measure; brief, easy to administer; valid and reliable.
Career Development Inventory (CDI)	Career maturity; readiness to make career decisions	Gr 8 - College	R- Attitude Scale = .75-.90 R- Cognitive Scale = .53-.87 R- Total Score = .85 Content, face, concurrent & construct validity; needs criterion validity.	Utility for assessing career maturity; diagnostic or survey info; ease of use and good appearance.
Career Maturity Inventory (CMI)	Career maturity in terms of attitude and competency	Gr 6 - 12+	R- Attitude Scale = .5-.72 Intercorrelations = .18-.55 R- Competence Test = .58-.90 Validity = .83, intercorrelations = .45-.71 Needs criterion validity	Attitude scale flawed by response bias; cautious interpretation but fair representation. Competence scale in early stages of development. Adequate if it measures what you need; ambitious claims.
Career Plans Check-up (CPC)	Career Maturity (Computerized)	Unknown	Correlation with MVS = .81	Encouraging.
Career Problem Checklist (CPC)	Identify Career Related Problems	Ages 14 - 17	Empirical data needed.	Pre-interview screening.
Career Skills Assessment Program (CSAP)	Career Ed Objectives (Self evaluation, career awareness, career decision-making, etc.)	High School + College	Content validity; lacks criterion validity; adequate reliability.	Highly correlated with verbal ability.
My Vocational Situation (MVS)	Assess vocational identity, occupational information, and barriers to career maturity.	GR 9 - Adult	KR20- VI Scale = .80s KR20 - OI & B = .23-.79 Weak validity evidence.	Screening; needs research.
Salience Inventory (SI)	Relative importance of life roles to understand readiness to make career decisions.	Gr 9+	R = .80s-.90s Evidence of validity Retest = .70	Cross cultural research edition; ipsative.

* Internal Consistency Reliability